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Engineers Week Tribute- A Look Back on Miriam White Campbell and Little Boy
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Description:

Article featuring Miriam White Campbell and her contribution to Little Boy

Engineers Week Tribute:
A Look Back on Miriam White Campbell and Little Boy
By Laura McGuinness, [National Security Research Center](#) Information Research Specialist

Give her a pencil and paper, and Miriam White Campbell could draw *anything* — even the plans to a top-secret atomic bomb.

She worked at Los Alamos in the 1940s when it was a clandestine lab racing to create the world's first nuclear weapons to help end World War II. Campbell drew the designs for the internal workings of the gun-type uranium bomb, known as Little Boy, which was detonated over Hiroshima on Aug. 6, 1945.

Campbell was more than a talented artist. She was trained in architecture, experienced in technical drawing, and served in the military. And, perhaps most notable, she was a member of the first staff at Los Alamos and made valuable contributions to the Lab's original national security mission at a time when women were limited in both educational and professional opportunities.

From the Midwest to the mountains

Before WWII broke out, Campbell studied architecture at the University of Illinois and later engineering at Purdue University in Indiana. As an architecture student, Campbell worked under a physicist who was developing spatial equipment to process coal. She worked as a technical draftsman, which required her to graphically represent the equipment structures, machines, and other components. Craftsmen would use her drafting to visually reference the technical design as they built the equipment.

In December 1942, she joined the Women's Army Corps (WAC) in the hopes of contributing to the U.S. war effort. By August 1943, Campbell was transferred from her initial assignment at Fort Des Moines Army Base in Iowa to a special, secret project. Decades later, she recounted in an [oral history](#) interview, "We were told absolutely nothing and we didn't know where we were going. We knew nothing, but you accepted it. [In] wartime, you accept a lot of things." Once in Los Alamos, Campbell was unsure why she was chosen for this assignment, but it quickly became clear that she possessed a valuable — and much needed — skill set.

At the Lab, Campbell was immediately assigned to work with physicist James Serduke and Capt. William "Deak" Parsons in the Lab's Ordnance Division, where she began drawing classified schematics.

In the 1940s, it was still quite uncommon for a woman to pursue any education or career in the field of engineering. As the United States became increasingly involved in WWII, men were drafted into the military at the same time as production began increasing for armaments. This sudden shortage of engineers catapulted women into roles that otherwise would not have been available to them.

Initially, Campbell worked in a shared drafting office, but was abruptly moved into a private technical office. She was drawing what would be known as Little Boy. “I not only drew it, I cut out drawings, isometric drawings, and cut it out so you could see everything in the bomb,” she later recalled in the oral history interview. The isometric cutout perspectives were unique because they displayed both the exterior and interior components of the bomb. The cutouts allowed the craftsmen to remove pieces and view different components of the bomb’s interior.

Life in Los Alamos, and after the war

In addition to her work, Campbell enjoyed life in Los Alamos. She was given permission for her dog, Mack, to be shipped from Illinois to New Mexico after arguing that her parents were unable to feed him and that the mess hall in Los Alamos was wasting enough food for her to keep him well-fed. Mack was shipped in a crate by rail and delivered to P.O. Box 1663, the now-famous Santa Fe mailing address that was used for the entire town of Los Alamos during the war. Mack accompanied Campbell to work, napping in the hallway and forcing the officers and scientists to step over him.

By the time the atomic bombs were used in combat, Campbell and Mack were no longer living in Los Alamos. She remembers hearing of the bombings on Japan and recalls mixed feelings. She lamented the resulting loss of life, but felt relief that the world’s bloodiest war had finally ended. In the following years, Campbell completed her degree in architecture and finished a master’s degree in city planning, a field in which she worked for 31 years.

In 2006, Miriam White Campbell died at the age of 88 in San Diego, California.

Miriam Campbell White’s work at the Lab is part of the collections of the National Security Research Center (NSRC), the Lab’s classified library, which also houses unclassified materials from our history. Contact us at nsrc@lanl.gov.

Special thanks to LANL Historian Ellen McGehee for her assistance. Her master’s thesis *The Women of Project Y: Working at the Birthplace of the Bomb* includes Miriam White Campbell’s story.

Box: February 21-27 is Engineers Week. The article is sponsored by the Athena Engineering Scholars Program, which inspires women to achieve their full potential as future leaders in engineering.

Captions:

1. **Miriam White Campbell:** Miriam White Campbell's badge photo was issued after her arrival in 1943. Campbell's badge photo is part of the collections of the National Security Research Center, the Lab's classified library.
2. **First_WAAC_Officers:** Women's Army Corps (WAC) officers being sworn into the U.S. Army at Fort Des Moines Army Base in Iowa on September 1, 1943. Miriam White Campbell was a member of the WACs and worked at the then-secret Lab in Los Alamos during World War II.
3. Little Boy is the uranium gun-type atomic weapon developed at the Los Alamos Lab. It was 9,700 pounds, 10-feet long, and just over 2-feet in diameter. Miriam White Campbell used her technical drawing and architectural knowledge, as well as her artistic talent, to contribute to the Lab's creation of Little Boy.
4. Little Boy, the uranium gun-type atomic weapon, was detonated over Hiroshima, Japan, on Aug. 6, 1945. It was one of two nuclear weapons created by Los Alamos that were used in combat. Shortly thereafter, Japan surrendered and World War II officially ended on Sept. 2, 1945.





